



PATIENT

Zoey Bucci

SPECIES

Canine

BREED

Boston Terrier

SEX

FS

AGE

12 years, 10 months

WEIGHT

29.2 lbs.

INTERPRETED BY

R. McKenzie Daniel,
DVM, DABVP
(Canine and Feline)

IMAGING PERFORMED BY

Jessica Miller, RDMA

HOSPITAL NAME

Westwood RVH

REFERRING VET

Dr. McConnell

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DATE

8/16/23

PRESENTING CLINICAL SIGNS

Cardiomegaly on fast scan, chronic diarrhea.

Current meds: Metronidazole 250mg, Trizedta Flush

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

CANINE	MR	TR	LA/AO	LA/AO	FS	EF	EPSS
CARDIAC PARAMETERS	VMAX (m/s)	VMAX (m/s)	(Boon method)	(Heart Base; Swe)	(%)	(%)	(cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT	5.2		1.2	1.4	44	76.5	0.29
CANINE	HR	AV	PV	BODY WEIGHT	LA	LVIDd	LVIDs
CARDIAC PARAMETERS	(BPM)	VMAX (m/s)	MAX (m/s)	(kg)	2D short axis Base view (cm)	Avg; 2D and m-mode short axis (cm)	Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6				
PATIENT	131	1.5	1.1		3.1	2.9	

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented mild thickening consistent with endocardiosis. Doppler indicated measurable mild centralized to eccentric insufficiency. The **left ventricle** presented thicknesses with linear contour and was not dilated nor restricted. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. **Contractility** of the ventricular walls was adequate and in normal range for this patient evidenced by the fractional shortening measurement and subjective evaluation of the different regions of the myocardium. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). No visible **pericardial** or free pleura fluid was noted. No echographically detectable evidence of infiltrative disease was visible. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.



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Urinary System

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The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.

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No evidence of pathology in the area of the aortic trifurcation.

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Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 5.3 cm in length. The right kidney measured 5.3 cm in length.

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Adrenal Glands

The bilateral adrenal glands exhibited mild enlargement based on caudal pole width measurement in light of body weight. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. There was no evidence of adrenal tumors. The left adrenal gland measured 2.3 cm length x 0.77 cm width at the caudal pole. The right adrenal gland measured 2.3 cm length x 0.93 cm width at the caudal pole.

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Spleen

R. McKenzie Daniel,
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(Canine and Feline)

The spleen exhibited normal size and contour with a primarily finely textured and homogenous parenchyma. A solitary, subtle, nondisruptive, mildly hypoechoic nodule was present in the cranial spleen measuring 1.8 cm diameter.

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Liver/ Gallbladder

Jessica Miller, RDMA

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size containing primarily anechoic content with minor gallbladder sediment. The cystic and common bile ducts were normal.

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Gastrointestinal

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The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction, or foreign material.

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The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction, or foreign material.

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Normal visible colon wall layers were present with semi-formed to soft fecal matter, consistent with patient history.



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Pancreas

The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM B1)
- Sonographically unremarkable gastrointestinal tract
- Semi-formed / soft fecal matter in colon
- Mildly enlarged, nonhomogeneous bilateral adrenal glands - nonspecific, age-related variant, mild adenomatous change, benign hyperplasia, no evidence of adrenal tumors
- Minor gallbladder sediment
- Mild pancreatic remodeling
- Nonspecific subtle splenic nodule - likely benign criteria i.e., hyperplasia, hematopoiesis, or similar, emerging neoplastic splenic nodule is considered less likely

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valvular changes with secondary eccentric mitral valve insufficiency. The lack of left atrial enlargement implies that the risk of complication secondary to mitral valve insufficiency is low at this time and, without current clinical signs, indicates that medical therapy is not required. Conservative monitoring is recommended with a recheck echocardiogram in 6-12 months, sooner if clinical signs suggestive of heart disease develop.

At times, the gastroenterocolic presentation may not always correlate with history of chronic gastrointestinal signs. Considerations may include dietary intolerance / food hypersensitivity, dysbiosis, structurally insignificant inflammatory bowel, low-grade to chronic pancreatitis which may present as sonographically normal, occult parasitism, occult Addison's Disease, and infiltrative neoplasia (thought unlikely). A GI panel to include PLI/TLI/Cobalamin/Folate is recommended.

A novel protein or hydrolyzed diet trial with likely long term dietary therapy, empirical deworming (Panacur 50 mg/kg PO SID x 5 consecutive days with potential repeat protocol in 3 weeks even if fecal testing is negative), high colony count probiotic (Provable or similar), cobalamin supplementation pending assessment of cobalamin levels, and as needed gastrointestinal support with assessment of clinical response may prove beneficial. Potential adverse effects on normal gastrointestinal flora secondary to antibiotic therapy may be a consideration in this case.

Sonographic monitoring of the splenic nodule for evidence of progression +/- screening nodule FNA cytology using a 25-gauge needle is recommended.



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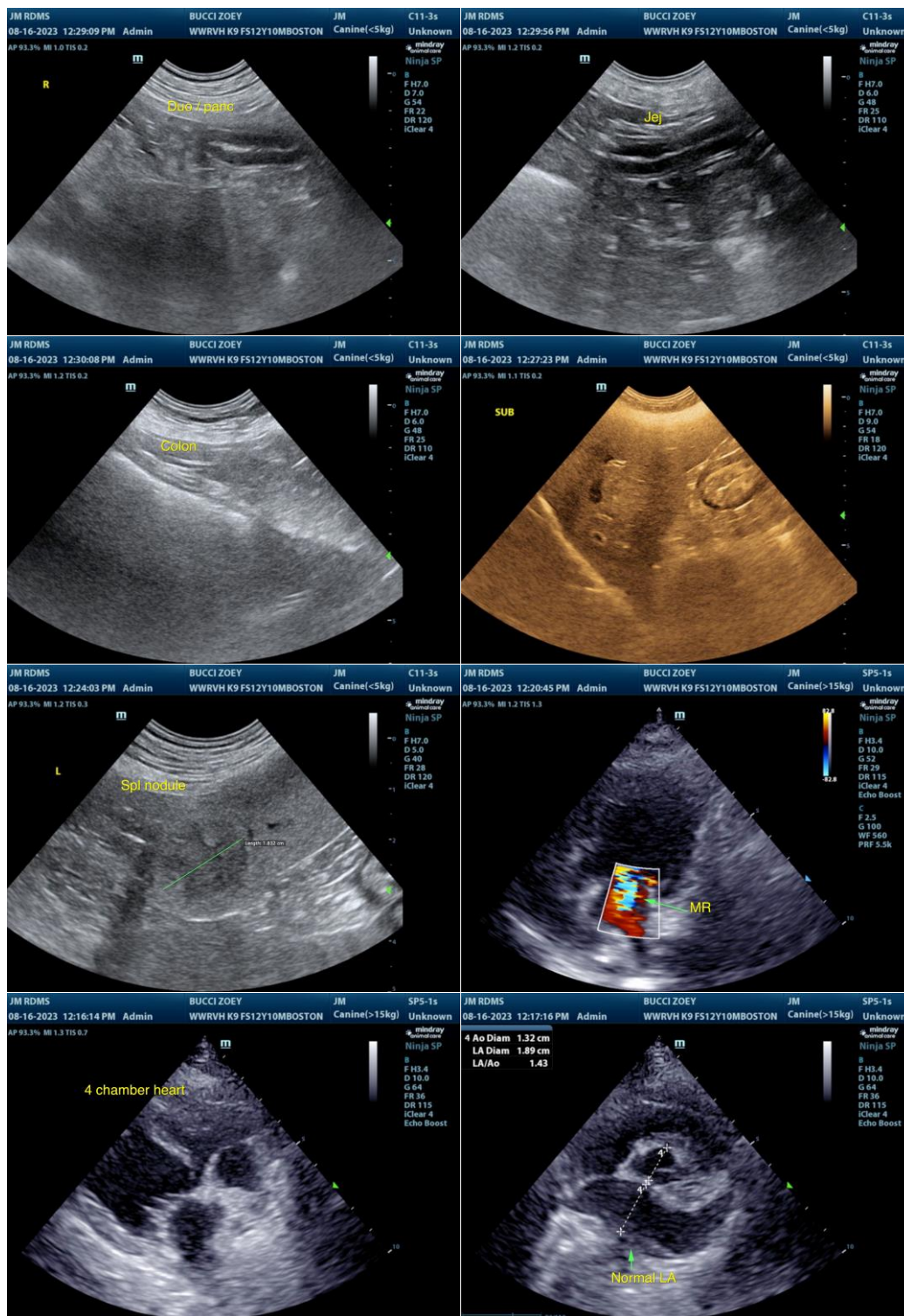
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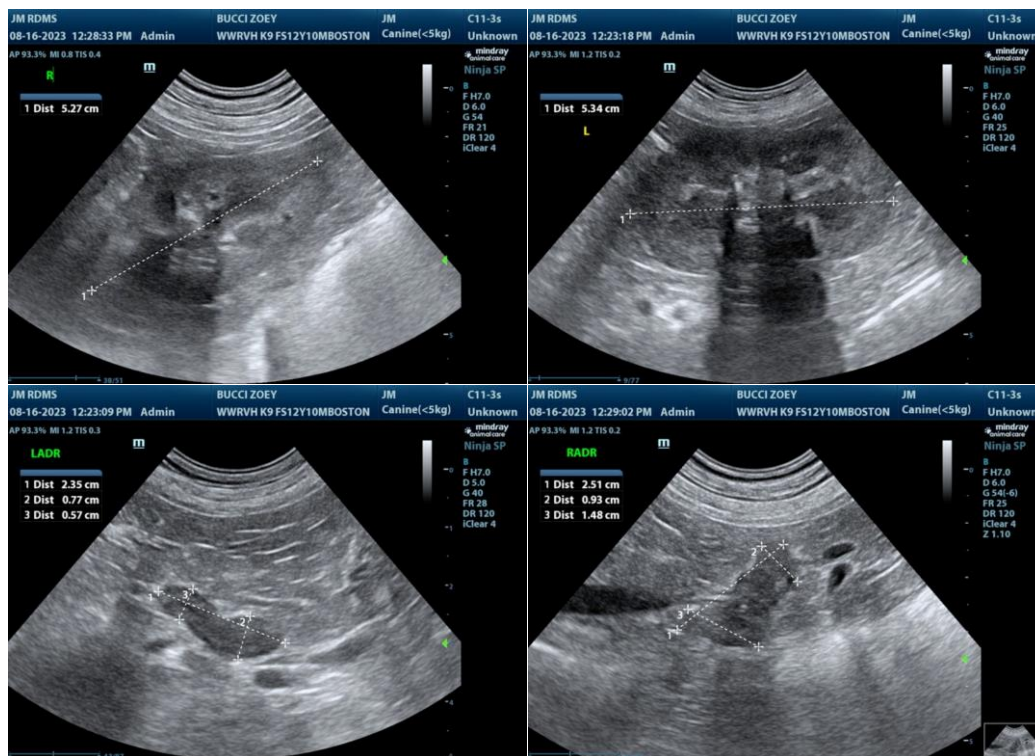
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

R. McKenzie Daniel, DVM, DABVP (Canine/Feline Practice)

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